

WHAT IS CLAIMED IS

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1. A method of providing a multicast service from an information delivery apparatus to wireless terminals, comprising the steps of:

transmitting, from the information
10 delivery apparatus, a plurality of sets of multicast information, said sets being identical to each other as to contents thereof but differing in transmission conditions; and

receiving, at any given one of the
15 wireless terminals, one of the sets of multicast information being transmitted under one of the differing transmission conditions.

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2. The method as claimed in claim 1,
wherein the differing transmission conditions
include differing transmission rates at which the
25 multicast information is transmitted.

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3. The method as claimed in claim 2,
wherein communication between the information
delivery apparatus and the wireless terminal is
based on code division multiple access, and the

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differing transmission rates differ in a number of spreading codes used in the transmission of multicast information.

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4. The method as claimed in claim 2, wherein communication between the information delivery apparatus and the wireless terminal is based on time division multiple access, and the differing transmission rates differ in a number of timeslots used in the transmission of multicast information.

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5. The method as claimed in claim 2, wherein the differing transmission rates differ in a number of modulation levels used for modulating the multicast information.

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6. The method as claimed in claim 2, wherein the differing transmission rates differ in a transmission bit rate of the multicast information.

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7. The method as claimed in claim 1,
wherein communication between the information
delivery apparatus and the wireless terminal is
based on code division multiple access, and the
5 differing transmission conditions include differing
processing gains of spreading the multicast
information.

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8. The method as claimed in claim 1,
wherein the differing transmission conditions
include differing positions of timeslots used in the
15 transmission of multicast information.

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9. The method as claimed in claim 1,
further comprising the steps of:

measuring reception quality at each of the
wireless terminals, and notifying the information
delivery apparatus of measured results of the
25 reception quality; and

determining, at the information delivery
apparatus, the differing transmission conditions
based on the measured results of the reception
quality, the differing transmission conditions being
30 used to transmit the plurality of sets of multicast
information.

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10. The method as claimed in claim 9,
further comprising a step of having the information
delivery apparatus notify the wireless terminals of
the differing transmission conditions, wherein said
5 step of receiving receives the one of the sets of
multicast information by using the one of the
differing transmission conditions that is notified
by the information delivery apparatus.

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11. The method as claimed in claim 1,
further comprising the steps of:
15 transmitting, from the information
delivery apparatus to the wireless terminals, the
differing transmission conditions used to transmit
the plurality of sets of multicast information; and
measuring reception quality at each of the
20 wireless terminals, and selecting a transmission
condition from the reported differing transmission
conditions based on the measured reception quality,
the selected transmission condition being used for
receiving one of the sets of multicast information.

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12. The method as claimed in claim 2,
30 further comprising a step of decreasing a size of
the multicast information to be transmitted as the
differing transmission rates decrease.

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13. The method as claimed in claim 12,
wherein said step of decreasing adjusts a
compression rate of the multicast information to be
transmitted so as to decrease the size of the
5 multicast information.

10 14. The method as claimed in claim 2,
further comprising the steps of:
storing the multicast information in a
buffer at the information delivery apparatus as the
multicast information is received from a network;
15 and
assigning channels to the respective sets
of the multicast information as the respective sets
are read from the buffer at rates of reading
corresponding to the differing transmission rates.

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15 15. The method as claimed in claim 14,
further comprising a step of adjusting the differing
transmission rates based on delays of the reading of
the multicast information from the buffer.

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16. An information delivery apparatus for
delivering multicast information to wireless

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terminals through wireless routes, comprising:

a multicast information storage unit which stores the multicast information to be transmitted;

- an information delivery control unit which
- 5 transmits a plurality of sets of the multicast information, which are identical to each other as to contents thereof but differ in transmission conditions.

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17. The apparatus as claimed in claim 16, wherein the differing transmission conditions
- 15 include differing transmission rates at which the multicast information is transmitted.

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18. The apparatus as claimed in claim 17, wherein communication between said information delivery apparatus and the wireless terminal is based on code division multiple access, and the
- 25 differing transmission rates differ in a number of spreading codes used in the transmission of multicast information.

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19. The apparatus as claimed in claim 17, wherein communication between the information

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delivery apparatus and the wireless terminal is based on time division multiple access, and the differing transmission rates differ in a number of timeslots used in the transmission of multicast
5 information.

10 20. The apparatus as claimed in claim 17, wherein the differing transmission rates differ in a number of modulation levels used for modulating the multicast information.

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21. The apparatus as claimed in claim 17, wherein the differing transmission rates differ in a
20 transmission bit rate of the multicast information.

22. The apparatus as claimed in claim 16,
25 wherein communication between said information delivery apparatus and the wireless terminal is based on code division multiple access, and the differing transmission conditions include differing processing gains of spreading the multicast
30 information.

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23. The apparatus as claimed in claim 16, wherein the differing transmission conditions include differing positions of timeslots used in the transmission of multicast information.

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24. The apparatus as claimed in claim 16, wherein said information delivery control unit determines the differing transmission conditions based on reception qualities of the wireless terminals reported from the wireless terminals, the differing transmission conditions being used to transmit the plurality of sets of multicast information.

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25. The apparatus as claimed in claim 24, wherein said information delivery control unit notifies the wireless terminals of the determined differing transmission conditions.

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26. The apparatus as claimed in claim 16, wherein said information delivery control unit notifies the wireless terminals of the differing transmission conditions used to transmit the plurality of sets of multicast information.

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27. The apparatus as claimed in claim 17 wherein said information delivery control unit decreases a size of the multicast information to be transmitted as the differing transmission rates
5 decrease.

10 28. The apparatus as claimed in claim 27 wherein said information delivery control unit adjusts a compression rate of the multicast information to be transmitted so as to decrease the size of the multicast information.

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29. The apparatus as claimed in claim 17,
20 wherein said information delivery control unit assigns channels to the respective sets of the multicast information as the respective sets are read from said multicast information storage unit at rates of reading corresponding to the differing
25 transmission rates.

30 30. The apparatus as claimed in claim 29, wherein said information delivery control unit adjusts the differing transmission rates based on delays of the reading of the multicast information

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from said multicast information storage unit.

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31. A wireless terminal for receiving
multicast information from an information delivery
apparatus through wireless routes, comprising a
control unit which measures reception quality of
10 signals received from the information delivery
apparatus, and receives one of sets of the multicast
information sent from the information delivery
apparatus by using transmission conditions selected
based on the measured reception quality, wherein the
15 sets of multicast information are identical to each
other but differ in transmission conditions.

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32. The wireless terminal, wherein said
control unit notifies the information delivery
apparatus of the measured reception quality, and is
notified by the information delivery apparatus of
25 the transmission conditions that are to be used for
receiving the one of the sets of the multicast
information sent from the information delivery
apparatus.

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